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Elizabeth Miller — 11/18/2002
Elizabeth Miller — Date

ATTY DOCKET NO. 10991[illegible]4-5

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Michel G.M. Perbost	Group Art Unit:	1634
Serial No.:	09/895,050	Examiner:	A. Chakrabarti
Filed:	06/29/2001		
Title:	BIOPOLYMER ARRAYS AND THEIR FABRICATION		

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

RESPONSE

The Examiner is thanked for the Office Action mailed 07/16/2002. A request for a 1-month extension to respond, is enclosed, which extends the filing date for a response to Monday, 11/18/02). A Notice of Appeal is also enclosed.

The Examiner is thanked for the allowance of claim 31. Claims 29, 30 and 32-35 were rejected under 35 U.S.C. 103(a) over Baldeschwieler et al. (WO 95/25116) in view of Hirschbein et al. (US 5,859,233). All of the rejected claims 29, 30, 32-35 require the following:

> (i) deposit the fluid composition of solid activator separate from and preceding deposition of the biomonomer;
> (ii) allow sufficient time for evaporation to leave solid activator at the region; and
> (iii) then deposit the biomonomer.

The Examiner contends that all these elements can be found in Baldeschwieler et al. with the exception that Baldeschwieler et al. do not teach an apparatus where sufficient time is allowed for evaporation to leave solid activator at the region then depositing the biomonomer. The Examiner contends that this feature is found in

Hirschbein et al. and that it would have been obvious to use such a feature in Baldeschwieler et al. thereby leading to the claimed invention.

The foregoing rejection is respectfully traversed on the basis that the Examiner miss-reads Hirschbein et al., and that it does not in fact teach or suggest allowing sufficient time for evaporation to leave a solid activator in a region to which is then applied a biomonomer.

Before looking at the portions of Hirschbein et al. specifically relied upon by the Examiner, it is believed that they are misinterpreted by the Examiner due to the use of the word "dry" in that patent. In particular, Hirschbein et al. makes it clear that "dry" is used in the sense of no water being present, not that a solid form of the activator is present. See in particular, column 12, lines 35-39:

> "A great amount of care should be exercised to use **very dry (free from water)** monomer, activator, and solvent for the coupling step and for the solvent used to wash the solid support immediately before the coupling step. (emphasis added)

Turning now to the particular portions of Hirschbein et al.: relied on by the Examiner, the Examiner first references (page 4, 2nd paragraph of the Action) in Hirschbein et al. Example 2 and column 12, lines 27-39, and column 13, line 46 to column 14, line 9, for the concept of allowing sufficient time for evaporation to leave a solid activator. Example 2 though, deals only with preparation of one of the phosphoramidite monomers (see line 20, 3-4 "Preparation of 2'-Deoxy -3'-tritylaminocytidine-5'-phosphoramidite Monomers") using Scheme III of column 24-25, and not with linking multiple monomers as done later in the Hirschbein et al. patent or in Baldeschwieler et al. Accordingly, this does not provide any teaching as to how to use Hirschbein et al.'s monomer coupling activator (note that Hirschbein et al.'s usual tetrazole class of activators described in column 12, lines 26-39, is not even present in Example 2).

The Examiner next references column 13, line 46 to column 14, line 4 for the benefits of using "dry reagents and solvents". As pointed out above, **Hirschbein et al. specifically defines "dry" not as being a solid but as simply being free of water (not as being a solid)**. Thus, there is no teaching here as to allowing sufficient time

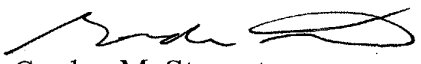
for evaporation to leave a solid activator as required by all the rejected claims, but merely a teaching of the benefits of using reagents which are free from water.

Thus, while Hirschbein et al. does in fact teach using "dry reagents", this only means reagents without water and the relied upon portions of Hirschbein et al. therefore do not teach what the Examiner alleges (i.e. allowing sufficient time for evaporation to leave a solid activator). Furthermore, a look at Hirschbein et al.'s actual coupling reactions (Examples 10-15, 19, and 23) make it clear that he simply uses a dry solution (free of water) of tetrazole activator for their coupling reactions. Specifically the tetrazole activator solvent is acetonitrile; see column 32, line 16 for Example 10, the same solution being used in Examples 11-13 and 15; column 34, lines 57-58 for Example 14 with the same solution in Example 23; and column 44, line 34 for Example 19). None of those Examples (nor anything the Examiner has referenced) suggest for some unexplained reason allowing sufficient time for the dry solvent to evaporate to leave a solid activator.

Thus, while the Examiner correctly points out that Hirschbein et al. refers to using a dry solvent (i.e. free of water) for the activator, he has not pointed to anything in Hirschbein et al. where this dry solvent is allowed sufficient time to evaporate to leave a solid activator before a biomonomer is then applied. Accordingly, it is respectfully submitted that the rejection of claims 29, 30 and 32-35 should now be withdrawn and those claims allowed in addition to allowed claim 31.

If the Examiner is of the view that there are any outstanding issues that might be resolved by means of a telephone conference, he is invited to call Gordon Stewart at (650)485-2386.

Respectfully submitted



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